

DIPTERA FROM THE HEADWATERS OF THE GILA RIVER. — II.

BY C. H. TYLER TOWNSEND, LAS CRUCES, N. MEX.

TABANIDÆ.

Four ♀ specimens of *Tabanus* (probably subgen. *Theriopectes* OS.), from the West Fork, show two distinct forms easily separated by differences in the antennae, front, and markings of the abdomen. They look much alike, are of the same size and have the same general coloration. I have examined descriptions of all the North American species, but am unable to identify these two forms with any of them. They agree with each other in the following characters, in most of which they approach *T. rheinwardtii* Wd. OS.

Wings clear hyaline, without spots or bands, costal cells clear except a yellow line at stigma. First posterior cell open full width. No stump at bend of anterior branch of third vein, which bend is not angulate but rounded. Eyes faintly but distinctly pubescent. A slight ocellar tubercle, not or hardly denuded. Palpi stout, and rather broad basally. Third antennal joint with a well developed process at base. Thin tuft of black hair between base of wings and humerus.

They differ particularly from *T. rheinwardtii* (syn. *erythrotelus* Walker. See Westwood's figure, Dipt. Saund. pl. 2, fig. 1) as follows: Basal portion of third antennal joint much shorter, and more widened, angle more prominent. Abdomen grayish-slate to blackish, not reddish on sides or with hardly a tinge of red, no median row of triangles. No clouds on wings,

first posterior cell not at all coarctate. They may be separated from each other by the following descriptions.

7. *Tabanus gilanus* n. sp. Two ♀s. West Fork Gila, July 10 to 16. Taken from horses.

Length, 14 mm. Eyes (not revived) show two dull green, oblique stripes on a cupreous-brown background, running from inner front angle of eye to outer upper border. Front just perceptibly narrowed anteriorly, parallel portion but little more than $2\frac{1}{2}$ times as long as vertical width. Callosity sub-round, notched above, in one specimen connected with the subcallus, in the other not. Subcallus widened, longitudinally elongate, in one case prolonged by a line above, in the other deeply notched. A brownish tinge on each side of subcallus and on vertex. Callosities shining black. Front otherwise cinereous pollinose, the portion next antennae pale reddish and less pollinose. First antennal joint widened apically, apical width equal to length, but less than width of basal portion of third joint. Second joint very short, ending in a spur on upper edge. Basal portion of third joint as wide as its whole length, angle of process blunt; annulate portion as long as basal, stout but last joint elongate and tapered. First two joints reddish-yellow, third same color at base with rest black. Palpi pale yellowish, white-hairy with but few black hairs. Face, pectus, and pleura white-hairy. Thorax and scutellum whitish pollinose, with four heavy blackish vittae on thorax rather closely approximated, a slight reddish-yellow tinge apparent on sides of thorax. Abdomen slate-color or blackish, with a median longitudinal whitish line widened on hind margins of segments.

On each side a line of oblique whitish elongate linear markings reaching hind margin of segments. Dark parts of abdomen with black hairs, light parts with whitish hairs. Legs mostly brown, middle and hind tibiae and proximal half of front tibiae brownish-yellow. Middle and hind femora white-hairy, also light parts of tibiae.

S. *Tabanus intensivus* n. sp. Two ♀s. West Fork Gila, July 13 to 16. Taken from horses.

Length, 14 mm. Eyes (not revived) unicolorous cupreous-brown, without apparent stripes. Front almost imperceptibly narrowed anteriorly, parallel portion about $3\frac{1}{2}$ times as long as vertical width. Callosity subround, more or less irregular, notched above, with connecting line to subcallus, which is nearly as wide as callus proper, in neither case denuded, with a distinct or nearly obsolete brown tinge on each side. A distinct or subobsolete brown tinge at vertex. Callosities reddish-brown, but little darker than the reddish-yellow or yellowish-red part of front next antennae. Front otherwise grayish-white pollinose. First antennal joint ending in a sharp point on upper edge at an acute angle, its apical width a little greater than width of basal portion of third joint; second joint short, ending in a spur on upper edge; basal part of third joint not quite so wide as long, the process ending in a hook-like angle (*i. e.*, there is a very short minute spur projecting anteriorly from angle of process). Annulate portion considerably shorter than basal, rather stout. Antennae wholly deep black, with only base of first joint slightly reddish in one specimen, and all but upper anterior point of first reddish-yellow in the other. Palpi white-hairy, in one yellowish-white with no apparent black hairs, in the other very pale yellowish with but few black hairs. Face, pectus and pleura white-hairy. Thorax and scutellum whitish pollinose, with four heavy blackish vittae on thorax; scutellum reddish

on apex or wholly so, with reddish-yellow on adjoining posterior part of thorax extending extensively on sides. Abdomen soft black or brownish-black, first segment with a whitish spot in middle; second with an oblique white marking on sides widened posteriorly and reaching hind margin, and with a narrow white hind border on median portion. Third segment with a subsemicircular or triangular median white spot on hind margin, and an oblique lateral marking smaller than that of second segment. Fourth with a large median white triangle reaching front margin, and small lateral spots faint or subobsolete. Fifth with a small white median triangle, lateral spots faint or subobsolete. Sixth and seventh segments show the median and lateral white only when the insect is held on a level with the eye. Legs as in *gilanus*.

9. *Tabanus punctifer* O. S. One ♂, and one ♀. Head of East Fork Gila, DD Bar ranch, July 22.

SYRPHIDAE.

10. *Eristalis latifrons* var. *maculipennis* n. var. One ♀. Head of East Fork, July 22. (See Psyche, 1897, p. 40.) Also numerous specimens from the Mesilla Valley of the Rio Grande, etc.

I propose this name to distinguish the variety, whose characters I pointed out in Trans. Am. Ent. Soc. xxii, p. 49. It is principally distinguished by the brownish cloud on the wings.

CONOPIIDAE.

11. *Zodion fulvifrons* Say (typical form). One ♀. West Fork Gila, July 18. Length, 6 mm. This specimen belongs to the typical form, or that described by Say himself as *fulvi-*

frons. It is characterized by having the front reddish-yellow with vertex brown, the legs brown, abdomen with no yellowish or reddish except at tip, three thoracic lines, and the black median pair of abdominal stripes pronounced.

The present specimen has the median thoracic line more pronounced than in the variety *abdominale*, but still narrower than the outer ones. The pollen of fourth, fifth, and sixth segments assumes a strong golden hue, especially when viewed obliquely from in front. Fifth and sixth segments and base of seventh reddish-yellow under the pollen. The median abdominal stripes are deep black; they form two widened subsquare markings on second segment,

two broad lines on third, and two narrow lines on fourth. They are widened at hind margin on second and third segments. Very few dots present in the pollen of abdomen. These in the main are the characters of the typical form.

All the other specimens that I have taken in New Mexico (Mesilla Valley, Organ Mts., Tularosa Plains) are var. *abdominale* (3800-5500 ft.). The present is the only one of the typical form taken, and it comes from about 7000 ft. elevation. (See paper on Dipt. Organ Mts. for notes on var. *abdominale*.)

N. B.—By mistake the species given in section I of this paper were not numbered. They include numbers 1 to 6. Those in this section are numbered from 7 on.

TWO FORMS OF FLUTED SCALE.

UP to the present the famous Fluted Scale (*Icerya purchasi* Maskell) of California has been regarded as a single species, without any important variations. I was therefore surprised to learn from Mr. Alex. Craw that over six years ago he had noticed that there were two distinct forms, and that his subsequent experience had shown him that they remained distinct, and did not depend on location or food-plant. Mr. Craw has been so good as to send me living adult females of the two varieties, and they can be readily distinguished as follows:—

(1.) var. *maskelli*. Female (after forming ovisac) slate grey or very dark purplish-grey, sometimes brownish in the middle, with marginal dull orange spots. Back little covered by secretion. More hairy at the cephalic end than the next. Ovisac not so large as in the next; tinged with yellow just behind the body of the insect. Mr. Craw says this is the form they had in Los Angeles. It is *purchasi* in the strict sense, and agrees

very nearly, though not entirely, with Maskell's description.

(2.) var. *crawii*. Female (after forming ovisac) light pinkish or yellowish-red, the margin orange, with bunches of short black bristles. The back is largely covered with yellowish-white secretion. Ovisac somewhat larger and longer. Legs somewhat smaller, femora decidedly more slender. This may prove to be a distinct species, but the larval and adult characters, except those mentioned, agree so well with *purchasi* that it seems best to give it only varietal rank.

Both forms were sent on *Citrus*; the precise locality not stated. Mr. Craw says: "When I sent two large boxes of infested branches from Lodi to San Gabriel to stock the two large glass breeding houses for *Vedalia cardinalis* that the State Board erected there, I saw that the light colored scale [*i. e.* var. *crawii*] retained its characters there on the orange trees."

T. D. A. Cockerell,
Mesilla, N. M., May 30, 1897.